

III. REMARKS

Claims 1-20 are pending in this application. By this amendment, claims 1, 10 and 16 have been amended. Applicants do not acquiesce in the correctness of the rejections and reserve the right to present specific arguments regarding any rejected claims not specifically addressed. Furthermore, Applicants reserve the right to pursue the full scope of the subject matter of the original claims in a subsequent patent application that claims priority to the instant application. Reconsideration in view of the following remarks is requested.

Entry of this Amendment is proper under 37 C.F.R. §1.116(b) because the Amendment: (a) places the application in condition for allowance as discussed below; (b) does not raise any new issues requiring further search and/or consideration; and (c) places the application in better form for appeal. Accordingly, Applicants respectfully request entry of this Amendment.

In the Office Action, claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being allegedly being indefinite. In the Office Action, claims 1-3, 6-8, 10, 11, 13, 14, 16-18 and 20 are rejected under 35 U.S.C. 102(b) as being allegedly anticipated by Jacobs (US Patent No. 6,294,407), hereinafter “Jacobs”. Claims 1-3, 7-11 and 14-18 are rejected under 35 U.S.C. 102(e) as being allegedly anticipated by Pierson et al. (US Patent No. 6,774,315), hereinafter “Pierson”. Claims 12 and 19 are rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Jacobs in view of Shih et al. (US Patent No. 6,286,208), hereinafter “Shih”. Finally, claims 12 and 19 are also rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over Pierson in view of Shih.

Applicants respectfully submit that the claimed invention is allowable for the reasons stated below.

With respect to the rejection under 35 USC 112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter, Applicants respectfully traverse the rejection. The Office alleges claim language related to the interposer is unclear and confusing because it “is not correct because the interposer connects to the bump before it connects to the semiconductor chip and an electrical element before it connects to the substrate.” Office Action, page 2. Applicants respectfully contend that the claim language is correct, clear, and accurate. Specifically, the interposer structure of the claimed invention has a connection only to the semiconductor chip and to the substrate. Clearly, as Figures 1-5 indicate, the interposer structure 16 is only connected to semiconductor chip 12 and to substrate 14 because bump metallization (UBM) (i.e., alleged “bump”) or bottom layer metallurgy (BLM) is part of semiconductor chip 12 and top surface metallurgy (TSM) 23 (i.e., alleged “electrical element”) 24 is part of substrate 14. As is shown and as is known in the art, these elements are part and parcel of semiconductor chip(s) and substrate(s). “Metallurgical through connections 18 electrically connect under bump metallization (UBM) or bottom layer metallurgy (BLM) 22 *of* semiconductor chip 12 to top surface metallurgy (TSM) 24 *of* substrate 14.” (emphasis added)(Page 6, lines 1-3). Accordingly, Applicants request withdrawal of the rejection.

With respect to the rejection of claim 1 under Jacobs, Applicants submit that Jacobs does not teach or suggest, *inter alia*, “wherein the metallurgical through connections form the only connections to the semiconductor chip and to the substrate.” (emphasis added)(See claim 1, and similarly claimed in claims 10 and 16). Even assuming *arguendo* that Jacobs may disclose metallurgical through connections, an interposer structure, a semiconductor chip, and/or a substrate, Figures 1 and 8 in Jacobs clearly show there are several elements *other* than

metallurgical through connections that connect the interposer structure to the semiconductor chip and the substrate. For example, the dielectric adhesive layer 130 is adhesively bonded to the thin film decal 110 and second level substrate 120. Col. 6, lines 28-30. That is, the entire surface of the dielectric adhesive layer 130 is connected to the alleged semiconductor chip and alleged substrate. Thus, the interposer structure 1400 of Jacobs does not include an elastomeric, compliant material that has metallurgical through connections wherein the metallurgical through connections form the only connections to the semiconductor chip and to the substrate. In view of the foregoing, Jacobs does not disclose each and every feature of claims 1, 10 and 16.

With respect to the rejection of claim 1 under Pierson, Applicants submit that Pierson, similar to the discussion (above) regarding the rejection under Jacobs, so too does not teach or disclose, *inter alia*, "wherein the metallurgical through connections form the only connections to the semiconductor chip and to the substrate." (emphasis added)(See claim 1, and similarly claimed in claims 10 and 16). Even assuming *arguendo* that Pierson may disclose metallurgical through connections, an interposer structure, a semiconductor chip, and/or a substrate, Figures 5-10 in Pierson clearly show there are elements *other* than the alleged metallurgical through connections that connect the alleged interposer structure to the semiconductor chip and the substrate. For example, the alleged interposer 1 is "uniformly laminated against the surface of chip die 23." Col. 5, lines 12-13. Thus, the alleged interposer structure 1, 3 in Pierson does not include an elastomeric, compliant material that has metallurgical through connections wherein the metallurgical through connections form the only connections to the semiconductor chip and to the substrate. In view of the foregoing, Pierson does not disclose each and every feature of claims 1, 10 and 16.

Dependent claims 2-9, 11-15 and 17-20 are believed allowable for the same reasons stated above, as well as for their own additional features.

IV. CONCLUSION

Applicants respectfully submit that the application is in condition for allowance. Should the Examiner believe that anything further is necessary to place the application in better condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,



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